

## SUMMARY

**Joel Jeevan Raj Yogarajah.** In terms of nutrition, cattle rumen content contains nutrients that can be utilized as an energy source because it contains metabolic energy of 2821.20 kcal / kg. According to Darsono (2011) the chemical composition of rumen contents (% dry materials) is as follows: ash 11%, crude protein 17.6%, crude fat 2.1%, crude fiber 28%, NFE 41.40%, Ca 0.79%, P 0.67%. In the cattle rumen there are also microbes, which consist of protozoa, bacteria and fungi (Sudaryanto, 2002). One of the most important groups of bacteria in the rumen is cellulolytic bacteria. Cellulose enzymes produced by cellulolytic bacteria are able to break down cellulose so that ruminants can live with low-quality forage (Arora, 1992). Biodegradation process contains cellulose activity which produces high cellulose enzyme (Asenjo *et al.*, 1986). Inside the rumen content, there are population of bacteria that includes in *Bacteriodes*, *Fusobacterium*, *Streptococcus*, *Eubacterium*, *Ruminococcus*, and *Lactobacillus* (Omed *et al.*, 2000).

Microbes in the cattle rumen content functions to degrade the cattle rumen content that has not completed the degradation process. Usually this process is carried out inside the research drums. It is expected that the fermentation carried out in the drum can decrease the crude fibre content, increase the protein content which can be utilized as one of the feed ingredients in making quail feeds.

This research carried out is to utilize the fermentation of cattle rumen content from the waste products in a slaughterhouse into a mixture of quail feed. The parameters measured are egg weight and haugh unit value.

The first step in this research is to undergo the fermentation process in cattle rumen contents, by filling up the drums with cattle rumen content. This is to make anaerobic conditions and given bacterial food in the form of molasses and urea for 5 days. The second step is by drying the rumen content. In Pergirian, Surabaya slaughterhouse, the cattle rumen contents are dried under the hot sun for at least 2 days. Once it is dried, the cattle rumen content is then analysed for fermentation process. Finally, the fermented cattle rumen content is mixed with the quail feed.

The process of mixing fermented cattle rumen content with quail feed is such T0 (formulated feed without mixing fermented cattle rumen content), T1 (formulated feed+ 5% fermented cattle rumen content), T2 (formulated feed+ 10% fermented cattle rumen content), T3 (formulated feed+ 15% fermented cattle rumen content).

**THE USAGE OF CATTLE RUMEN CONTENTS IN COMMERCIAL QUAIL  
FEED TOWARDS THE PRODUCTION AND HAUGH UNIT (HU) OF EGGS**

*(Coturnix coturnix japonica)*

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**ABSTRACT**

The purpose of this study was to determine the effect of rumen content fermentation on quail bird ration. The parameters measured were the production of egg weight and haugh unit. In total 24 quail birds were used with 4 treatments and 6 repetitions. Treatments were consists of T0(formulated feed without fermented rumen content), T1(formulated feed with 5% fermented rumen content), T2(formulated feed with 10% fermented rumen content), T3(formulated feed with 15% fermented rumen content). Samples are observed on the last day to determine the egg quality with the egg weight and haugh unit. The results showed that there are significant differences effected on the egg weight and haugh unit.

**Keywords:** egg weight, haugh unit, feed, fermented rumen content, quail bird

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Author

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